In the claims:

For the Examiner's convenience, all pending claims are presented below with changes shown in accordance with the new mandatory amendment format.

1. (Original) In a network having a router coupled to a multiplexor via a first multiplexor line and a redundant router coupled to the multiplexor via a second multiplexor line, the multiplexor further coupled to a network ring, a method comprising:

transmitting by the redundant router a signal to the router through a communications medium coupling the router and the redundant router;

initiating by the redundant router a switch from the router communicating with the multiplexor via the first multiplexor line to the redundant router communicating with the multiplexor via the second multiplexor line based at least in part on the redundant router not receiving a response via the communications medium to the signal; and

transmitting by the redundant router a request signal to a neighbor device coupled to the network ring, the request signal transmitted via the second multiplexor line, the multiplexor and the network ring, the request signal indicating an identifier of the redundant router;

transmitting by the neighbor device a response signal to the redundant router via the network ring and multiplexor, the response signal indicating the identifier of the redundant router;

transmitting by the multiplexor the response signal to the router via the first multiplexor line and the redundant router via the second multiplexor line;

receiving at the router via the first multiplexor line the response signal and detecting a switch to communication with the multiplexor from the router via the first multiplexor line to the

redundant router via the second multiplexor line based on the presence of the identifier of the redundant router in the response signal.

2. (Original) The method of claim 1, wherein transmitting by the redundant router the request signal to the neighbor device further comprises establishing a point-to-point link between the redundant router and the neighbor device.

3. (Original) The method of claim 1, wherein the ring network comprises a SONET-based ring network.

4. (Original) The method of claim 3, wherein the multiplexor comprises an add-drop multiplexor coupled to the SONET-based ring network.

5. (Original) The method of claim 3, wherein the communications medium comprises a local area network that operates out-of-band with respect to the SONET network.

6. (Original) The method of claim 2, wherein the redundant router utilizes a link control protocol (LCP) to establish the point-to-point link between the redundant router and the neighbor device.

7. (Original) The method of claim 6, wherein the identifier is provided in an identifier field of a LCP-based datagram.

8. (Original) The method of claim 7, wherein the most significant bit of the identifier field in the LCP-based datagram is utilized to indicate a line switch to the redundant router.

9. (Original) The method of claim 1, wherein the neighbor device comprises a router.

10. (Original) The method of claim 1, further comprising terminating communication between the router and multiplexor based at least in part on the router receiving the response signal.

11. (Original) A method comprising:

transmitting a first signal from a protection router to a working router via a side band connection;

if the protection router fails to receive a response to the first signal from the working router, then:

transmitting a second signal from the protection router to a neighbor device via a signal multiplexor to which the protection router is coupled by way of a protection line and the network device is coupled by way of a network ring, the second signal providing an indicator for the protection router;

transmitting a third signal from the neighbor device in response to the second signal, the third signal providing the indicator for the protection router;

receiving the third signal via the network ring at the signal multiplexor and forwarding the third signal to the protection router via the protection line and to the working router via a working line;

receiving the third signal at the working router and terminating communication between the working router and the signal multiplexor on detecting the indicator for the protection router in the third signal.

12. (Original) The method of claim 11, wherein transmitting a second signal from the protection router to a neighbor device comprises transmitting a configuration request signal.

13. (Original) The method of claim 12, wherein transmitting a configuration request signal from the protection router to a neighbor device comprises transmitting a link control protocol configuration request signal.

14. (Original) The method of claim 13, wherein the indicator for the protection router comprises a link control protocol identifier of the protection router.

15. (Original) The method of claim 14, wherein transmitting a third signal from the neighbor device in response to the second signal, the third signal providing the indicator for the protection router, comprises transmitting a configuration response signal from the neighbor device in response to a link control protocol configuration request signal.

16. (Currently Amended) The method of claim 15, wherein transmitting a configuration response signal from the neighbor device in response to a link control protocol configuration request signal comprises transmitting a link control protocol configuration ~~request~~ response

signal from the neighboring device in response to a link control protocol configuration request signal.

17. (Original) The method of claim 16, wherein the third signal providing the indicator for the protection router comprises a link control protocol configuration response signal providing the link control protocol identifier of the protection router obtained from the link control protocol configuration request signal.

18. (Original) The method of claim 17, wherein receiving the third signal via the network ring at the signal multiplexor and forwarding the third signal to the protection router via the protection line and to the working router via a working line comprises receiving the link control protocol configuration response signal via the network ring at the signal multiplexor and forwarding it to the protection router via the protection line and to the working router via the working line.

19. (Original) The method of claim 18, wherein receiving the third signal at the working router and terminating communication between the working router and the signal multiplexor on detecting the indicator for the protection router in the third signal, comprises receiving the link control protocol configuration response signal at the working router and terminating communication between the working router and the signal multiplexor on detecting the link control protocol identifier of the protection router in the configuration response signal.

20. (Original) A method comprising:

transmitting a heartbeat signal from a protection router for receipt by a working router;

if the protection router fails to receive a signal in response to transmitting the heartbeat signal, then:

transmitting a request signal from the protection router for receipt by a neighbor device via a signal multiplexor and a network ring, the request signal providing an indicator for the protection router, the request signal for causing:

the neighbor device to transmit a response signal from the neighbor device in response to the request signal, the response signal to provide the indicator for the protection router;

the signal multiplexor to receive the response signal via the network ring and forward the response signal to the protection router via the protection line and to the working router via a working line;

the working router to receive the response signal and terminate communication between the working router and the signal multiplexor if the indicator for the protection router in the response signal is detected.

21. (Original) An article of manufacture, comprising:

a machine accessible medium that provides instructions that when executed by the machine cause the machine to:

transmit a heartbeat signal for receipt by a working router;

if the machine fails to receive a signal in response to the heartbeat signal, then:

transmit a request signal from the protection router for receipt by a neighbor device via a signal multiplexor and a network ring, the request signal providing an indicator for the protection router, the request signal for causing:

the neighbor device to transmit a response signal from the neighbor device in response to the request signal, the response signal to provide the indicator for the protection router;

the signal multiplexor to receive the response signal via the network ring and forward the response signal to the protection router via the protection line and to the working router via a working line;

the working router to receive the response signal and terminate communication between the working router and the signal multiplexor if the indicator for the protection router in the response signal is detected.